REMARKS/ARGUMENTS

Claims 1-24 have been canceled without prejudice. Claims 25-48 are new.

35 U.S.C. § 103(a) Rejections

Examiner has rejected claims 1-4, 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over the Senadji et al. article entitled *"Estimation of the Hysteresis Value for Handover Decision Algorithms using Bayes Criterion"* (hereinafter "Senadji") in view of U.S. Patent 6,285,883 to Bringby et al. (hereinafter "Bringby '883"). The Examiner has also rejected claims 13-16, 19 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication 2004/0053615 to Kim et al. (hereinafter "Kim") in view of Senadji and Bringby '883. Additionally, the Examiner rejected claims 17, 18 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Senadji and Bringby '883 and further in view of the Eiselt article entitled *"Limits on WDM Systems Due to Four-Wave Mixing: A Statistical Approach"* (hereinafter "Eiselt"). Finally, the Examiner rejected claims 21 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Senadji and Bringby '883 and further in view of the Min-hua et al. article entitled *"The Mobile IP Handoff Between Hybrid Networks"* (hereinafter "Min-hua").

Canceled Claims 1-24

Claims 1-24 have been canceled without prejudice, rendering the Examiner's previous rejections moot.

New Claims

Claims 25-48 have been added to more particularly describe and claim the Applicant's invention. Applicant asserts that none of the prior references cited by the Examiner disclose the subject matter as claimed.

Claims 25-27

Claims 25-27 claim the selection of a base station dependent on a cost function (further including a hysteresis) and a second factor, **wherein the second factor is either base station load or physical distance between a user terminal and the base station.**

It is Applicant's position that none of the cited references consider either base station load or physical distance between the user terminal and base station as a base station selection criterion. Specifically, the Senadji reference merely discloses the use of distance to create a **model** of the received signal strength, not as a handoff criterion (Senadji section 2, p.1772). Senadji later comments "the distance between the mobile station and the base-stations [] are generally unknown" and then seeks to avoid a calculation dependent on the distance (Senadji section 4.2, p. 1774).

Applicant notes support for these new claims can be found in the original specification (paragraphs [0049] and [0058-0059]).

Claims 28 and 34

Dependent claim 28 and independent claim 34 claim the calculation of the adaptive hysteresis factor as a function of the standard deviation of a **residual signal** from **each base station** of a base station pair. Applicant notes specification paragraphs [0042] provide clear and unambiguous support for the claimed subject matter.

It is Applicant's position that Senadji calculates only **one** signal strength **average** from **each** base station and therefore does not calculate a **residual signal** from each base station. Applicant notes that the Examiner appears to have interpreted both Senadji's BS1 and BS2 (Senadji, Fig. 2) to refer to a **single** base station. However, Applicant understands BS1 to represent a first base station (Base Station 1) and BS2 to represent a second base station (Base Station 2). Applicant notes Senadji describes BS1 to be a distance "d" from the MS (mobile station) and BS2 to be a distance "D-d" from the MS (Senadji, Fig. 2). Applicant further notes that Senadji states, "the averaged signal strength (in dB) received from BS1 and BS2 at time k can be modeled as: (1) $y^1=K_1 - K_2\log(d) +u^1$; (2) $y^2=K_1 - K_2\log(D-d) +u^2$ where K_1, K_2 [are] path-loss parameters and depend on the medium and u^1 and u^2 are zero-mean Gausssian processes." (Senadji section 2, p. 1772). Thus, it is Applicant's position that the Senadji equation (1) is the averaged signal strength received from BS1, while Senadji equation (2) is the averaged signal strength received from BS2.

Claims 30 and 35

Applicant's claims 30 and 35 claim a residual signal as calculated **by subtracting an average taken over a first interval from an average taken over a second interval for a single base station.** Applicant notes specification paragraphs [0042]-[0048] provide clear and unambiguous support for the claimed subject matter.

In contrast, it is Applicant's understanding that Senadji does not disclose **calculating any differences between averages of just one base station.** Rather, it is Applicant's position that Senadji merely discloses calculating **the difference between the signal strength of BS1 and the signal strength of BS2.** Specifically, Senadji states, "the difference z_k between the received signal strengths is: (3) $z_k = y^1 - y^2$" (Senadji Section 2, equation 3, p.1772). Therefore, Applicant's submits that Senadji only discloses subtracting the averaged signal strength of base station one (BS1) from the averaged signal strength of base station two (BS2).

Claims 44-48

Applicant notes Figure 8B of the specification and associated description provides clear and unambiguous support for the apparatus claimed in 44-48.

Conclusion

Applicant respectfully submits the present application is in condition for allowance.

The Commissioner is authorized to charge or credit any deficiencies or overpayments in connection with this submission to Deposit Account No. 02-2666, and is requested to notify us of same.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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Gregory D. Caldwell
Reg. No. 39,926

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-3800